U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Species Account
SAN JOAQUIN VALLEY ORCUTT GRASS
Orcuttia inaequalis

CLASSIFICATION: THREATENED
Federal Register Notice 58:14338; March 26, 1997
http://ecos.fws.gov/docs/federal_register/fr3057.pdf
(125 KB)

San Joaquin Valley Orcutt Grass
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STATE LISTING STATUS AND CNPS CODE
This species was listed as endangered by the California Department of Fish and Game. The California Native Plant Society has placed it on List 1B (rare or endangered throughout its range).

CRITICAL HABITAT: Originally designated in Federal Register 68:46683; August 6, 2003.

The designation was revised in 70:46923; August 11, 2005.

Species by unit designations were published in 71:7117; February 10, 2006.
www.fws.gov/policy/library/2006/06-1080.html
www.fws.gov/policy/library/2006/06-1080.pdf (6.6 MB)

RECOVERY PLAN: Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon; December 15, 2005.
http://www.fws.gov/sacramento/es/recovery_plans/vp_recovery_plan_links.htm

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DESCRIPTION:
San Joaquin Valley Orcutt grass is a small, tufted annual in the grass family (Poaceae). Mature plants grow in tufts of several erect stems, each of which ranges from 5 to 30 centimeters (2.0 to 11.8 inches) long. The entire plant is grayish-green, due to the long hairs on the stem and leaves.

At maturity, the spikelets of the plant are aggregated into a dense, hat-shaped cluster (see photo left), which separates it from other members of the genus Orcuttia. (See Orcuttieae Grasses below)

Terrestrial leaves are 2 to 4 millimeters (0.08 to 0.16 inch) wide. The oval lemmas are 4 to 5 millimeters

(0.16 to 0.20 inch) long. Their tips are divided into five teeth approximately 2 millimeters (0.08 inch) long. The central tooth is longer than the others, hence the name *inaequalis* (“unequal”).

Each spikelet is flattened and contains 4 to 30 florets. Both rows of spikelets grow towards one side. The spikelets are crowded near the top one-third of the stem, producing a head-like inflorescence 2 to 3.5 centimeters (0.8 to 1.4 inches) long.

See Hickman (1993) in General Information about California Plants, below, for a detailed description of the species.

VERNAL POOLS:

Vernal pools are a unique kind of wetland ecosystem. Central to their distinctive ecology is their ephemeral nature. Vernal pools fill with water temporarily, typically during the winter and spring, and then disappear until the next rainy season.

In California, where extensive areas of vernal pool habitat developed over a long geological timeframe, unique suites of plants and animals have evolved that are specially adapted to the unusual conditions of vernal pools. Fish and other predators are among species that have been excluded evolutionarily byte annual filling and drying cycles of vernal pools.

The prolonged annual dry phase of the vernal pool ecosystem also has prevented the establishment of plant species typical of more permanent wetland ecosystems.

ORCUTTIEAE GRASSES:

The genera *Orcuttia*, *Neostapfia* and *Tuctoria* form the Orcuttieae tribe. All members of the Orcuttieae tribe share several characteristics that differ from many other grasses. Most grasses have hollow stems, but the Orcuttieae have stems filled with pith (the soft, spongy center found in many plants). Another difference is that the Orcuttieae produce two or three different types of leaves during their life cycle, whereas most grasses have a single leaf type throughout their life span.

The juvenile leaves of the Orcuttieae, which form underwater, are cylindrical and clustered into a basal rosette. After the pool dries, terrestrial leaves form in all species of the tribe. These leaves have flattened blades and are distributed along the stem.

Another characteristic common to all Orcuttieae is the production of an aromatic exudate, which changes from clear to brown during the growing season. The exudate most likely helps to repel herbivores

Orcuttia species have a third type of leaf that is not found in *Neostapfia* or *Tuctoria*. The terrestrial leaves of the Orcuttieae also differ from other grasses in other respects. Whereas grass leaves typically are differentiated into a narrow, tubular sheath that clasps the stem tightly and a broader blade that projects away from the stem, terrestrial leaves of the Orcuttieae are broad throughout and the lower portion enfolds the stem only loosely.

DISTRIBUTION:

San Joaquin Orcutt grass has always been restricted to the Southern Sierra Foothills Vernal Pool Region of the San Joaquin Valley. See the recovery plan (above) for detailed information about current distribution.

U.S. Geological Survey 7.5 Minute Quads: Ivanhoe (333B)* 3611942, Monson (334A) 3611943, Wahtoke (356B)* 3611964, Friant (378B) 3611986, Lanes Bridge (379A) 3611987, Fresno North (379D)* 3611977, Millerton Lake East (398D) 3711915, Daulton (399C) 3711918, Le Grand (400B) 3712022, Kismet (400D)* 3712011, Owens Reservoir (420C) 3712032, Haystack Mountain (421A) 3712043, Yosemite Lake (421B) 3712044, Merced (421C) 3712034, Planada (421D) 3712033, Cressey (422B)* 3712046, Paulsell (441B)* 3712066, Montpelier (441C)* 3712056, Waterford (442A)* 3712067, Denair (442D)* 3712057, Elmira (498C) 3812138. (*Presumed extirpated)

THREATS:

Habitat loss and fragmentation are the largest threats to the survival and recovery of vernal pool species. Loss of habitat generally results from urbanization, agricultural conversion and mining.

Habitat loss also occurs in the form of habitat alteration and degradation as a result of changes to natural hydrology, invasive species, incompatible grazing regimes, infrastructure projects (e.g., roads, water storage and conveyance, utilities), recreational activities (e.g., off-highway vehicles and hiking), erosion, contamination and inadequate management and monitoring.

A potential reason for some site-specific declines of this species may be foraging by grasshopper outbreaks, which can decimate entire populations before they set seed.

REFERENCES FOR ADDITIONAL INFORMATION:

General references about California plants
www.fws.gov/sacramento/es/plant_spp_accts/plant_references.htm

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